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MINERALS PROGRAM
FILE COPY

October 30, 1992

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OCT 30 1992

DIVISION OF
OIL GAS & MINING

Mr. Dave Hodson, Manager
Barney's Canyon Mine
P.O. Box 311
Bingham Canyon, Utah 84006-0311

RE: Stockpiled Sulfide Ore
Ground Water Permit No. UGW350001

Dear Mr. Hodson:

We are replying to your letter of September 2, 1992, regarding the disposal of the stockpiled sulfide ore dumps. Information provided in correspondence on the above date indicated the following. Three dumps presently contain about 244,000 tons of the material and your present plans are to increase the dump size to about 285,000 tons by January 1994. Continued stockpiling is necessary to maintain operations in the pits. The sulfide material is from the Barney and Melco pits. The dumps were also inspected by Mack Croft on October 6, 1992. You have indicated in the referenced correspondence that Barney's Canyon is investigating the feasibility of constructing a plant which would begin processing the material in the dumps and additional sulfide ore from the mines about mid 1994. After the sulfide minerals are removed from the rock, the waste material will be loaded on the pads for cyanide leaching, and the concentrated sulfide minerals would be shipped to the Magna plant.

Because the mine site forms part of the recharge area for the Salt Lake Valley, these kinds of issues are of particular interest to us. It is imperative that the sulfide materials be managed to protect the ground water resources.

Because of the small overall size of the three dumps, continued stockpiling and storage at these three sites could continue for a short period if protective measures are taken. The total volume must not exceed your projected size of about 290,000 tons. The following conditions must be met to allow limited continuation of the stockpiles.

1. The surface of the dumps must be compacted and contoured to promote runoff. This must be done immediately. After compaction, a hard crust develops on the surface of each dump which forms a protective layer. Your tests indicated the crust had a permeability of 1×10^{-5} cm/sec, which will promote runoff and minimize wind erosion.

Mr. Dave Hodson, Manager

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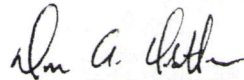
2. The crust must be allowed to develop on each dump. Future additions to the dumps must be in a manner that the "surface" contouring is generally maintained and the "crustal" disturbance is kept to a minimum.
3. After the crust has developed, the surface must be treated with a sealant that will further reduce the permeability within 30 days, and have sufficient durability to last several years. Please submit the details for this proposal prior to undertaking any work.
4. Finally, plans must be submitted by June 1993 for (a) construction approval of a process plant to handle sulfide material or (b) plans for removal and burial of the material forming the dumps.
5. The dumps must be completely removed by December 1998 if the plans in item 4a are approved. A removal date will be determined if option 4b is the agreed upon route.

Our initial review of the mine plan did not disclose this issue and we need to re-evaluate the sulfide content of rocks at the mine site and in the waste dumps. Ground water downgradient of the mine is low in sulfate and dissolved solids, and we believe an additional review is justified to determine if planned reclamation procedures of the waste dumps are adequate to protect ground water quality. Therefore, we are requesting copies of drill hole data and analyses from which we can determine the amount of sulfide material in the rock exposures and dumps. This information should be submitted with the January monitoring report. After evaluation, we will propose a compliance schedule and management plan for all waste piles and dumps. This will be incorporated into the Ground Water Discharge Permit. Also on the issue of the permit, we are still awaiting your response on the proposed permit modifications which were previously protested.

We appreciate your assistance extended Mack Croft in the inspection of these dumps and discussing this subject matter with him on October 6. Should you have further questions, call him at 538-6146.

Sincerely,

Utah Water Quality Board



Don A. Ostler, P.E.
Executive Secretary

DAO:MC:gt

cc: Div. Oil, Gas & Mining

Salt Lake City/County Health Dept.

P:STOCKSULLTR

FILE:BARNEY'S CANYON